

#675

ISRE 1 & 2
4SECOND AVERAGED ELECTRON AND PROTON DATA
77-102A-10H/77-102B-02F

4SEC PESOLVED B-FLP DATA (12-s AVG)
77-102A-04T/77-102B-04P

REQ. AGENT

RLR

RAND NO.

ACQ. AGENT

SK

ISEE-1

4 SEC AVG ELECTRON AND PROTON DATA

77-102A-10H

This data set catalog consists of 19 tapes for ISEE-1. The tapes are 6250 bpi, 9-track, binary, with an ASCII header file for each data file. The D and C numbers, time spans, and number of files are as follows:

77-102A-10H ISEE-1:

D#	C#	FILES	TIME SPANS
D-82300	C-27941	100	10/23/77 - 12/25/77
D-82301	C-27942	104	12/27/77 - 02/26/78
D-82302	C-27953	082	02/26/78 - 04/26/78
D-82303	C-27943	110	04/26/78 - 07/02/78
D-82304	C-27944	104	07/02/78 - 09/13/78
D-82305	C-27945	106	09/13/78 - 12/10/78
D-82306	C-27946	106	12/10/78 - 02/21/79
D-82307	C-27947	088	02/21/79 - 04/29/79
D-82308	C-27948	108	04/29/79 - 07/08/79
D-82309	C-27949	094	07/08/79 - 09/16/79
D-82310	C-27950	100	09/16/79 - 11/25/79
D-82311	C-27951	094	11/25/79 - 01/30/80
D-82312	C-27952	022	01/30/80 - 02/19/80
D-84356	C-28844	030	10/27/82 - 11/27/82
D-84357	C-28845	090	02/23/83 - 06/09/83
D-84358	C-28846	072	06/12/83 - 09/03/83
D-84359	C-28847	056	09/04/83 - 11/22/83
D-84360	C-28848	018	11/23/83 - 12/27/83
D-79073	C-27160	110	03/30/86 - 06/17/86

UNIVERSITY OF WASHINGTON
SEATTLE, WASHINGTON 98195

Space Sciences Division
Geophysics Program, AK-50
(206) 543-0208 or 543-8020

September 26, 1991

Suman Krishnaswamy
NSSDC Project
7601 Oral Glen Drive
Suite 300
Greenbelt, MD 20770

Dear Dr. Krishnaswamy:

I have just sent the ISEE archive tapes for period II (which is from October 15, 1982 to December 25, 1983). Ralph should receive them shortly. Each tape has a summary page containing the starting and stopping times of every file. There are eight tapes in one box: five from isee 1 and three from isee 2.

This concludes the archive shipments except for two flat tapes. The two tapes yet to be delivered are tapes correspond to the following dates:

isee 1: 28 Nov 1982 (332) - 22 Feb 1983 (053)
isee 2: 23 Nov 1983 (327) - 27 Dec 1983 (361).

All the data for these tapes has been processed, we are just having some problem putting it on the tapes. I will get them out as soon as I can.

If you have any questions please call me at (206) 543-0208.

Sincerely,

77-102A-10H
77-102B-08F - D184361-63

Jeffery Ross

62-7505

cc: Dr. Robert O. Wales
Dr. Keith Ogilvie
Dr. Mary Mellott
Dr. Tom Armstrong

Received
10/1/91

REQ. AGENT

RLR

RAND NO.

ACQ. AGENT

SK

ISEE-2

4 SEC AVG ELECTRON AND PROTON DATA

77-102B-08F

This data set catalog consists of 20 tapes for ISEE-2. The tapes are 6250 bpi, 9-track, Binary, with an ASCII header file for each data file. The D and C numbers, time spans, and number of files are as follows:

77-102B-08F ISEE-2:

D#	C#	FILES	TIME SPANS
D-82313	C-27994	106	10/22/77 - 12/28/77
D-82314	C-27995	108	12/28/77 - 02/26/78
D-82315	C-27996	106	02/26/78 - 04/27/78
D-82316	C-27997	110	04/27/78 - 07/01/78
D-82318	C-27999	088	07/02/78 - 09/13/78
D-82317	C-27998	092	09/13/78 - 12/10/78
D-82320	C-28001	108	12/10/78 - 02/21/79
D-82319	C-28000	114	02/21/79 - 04/29/79
D-82321	C-28002	106	04/29/79 - 07/08/79
D-82322	C-28003	104	07/08/79 - 09/16/79
D-82325	C-28006	098	09/16/79 - 11/25/79
D-82324	C-28005	100	11/25/79 - 01/29/80
D-82323	C-28004	036	01/30/80 - 02/19/80
D-84361	C-28849	036	10/24/82 - 11/27/82
D-84362	C-28850	082	11/28/82 - 02/22/83
D-79070	C-27161	120	02/21/83 - 06/11/83
D-79071	C-27162	086	06/12/83 - 09/01/83
D-84363	C-28851	056	09/04/83 - 12/13/83
D-85875	C-28939	6	12/13/83 - 12/27/83
D-79072	C-27163	110	03/28/86 - 06/17/86

ATTN: Ralph Post
RE: isee archive tapes

23-Nov-88

These four tapes contain isee data from the Berkeley/Toulouse high time resolution energetic particle experiments. They are in a FLAT format with the particulars as described in the accompanying letter to Sumant Krishnaswamy and the sample header file.

The tapes cover the time periods:

28-Mar-86 to 17-Jun-86 for isee 1 and 2;
21-Feb-83 to 1-Sep-83 for isee 2.

If you have questions, my phone number is 206-543-9055.

Michael McCarthy

Michael P. McCarthy
Research Associate
[206] 543-9055

14-October-1988

Sumant Krishnaswamy
Code 633
NSSDC
NASA/GSFC
Greenbelt, MD 20771

RE: Format of archive tapes

These data are from the high time resolution particle detectors from Berkeley/Toulouse. These detectors were installed on both ISEE-1 and ISEE-2. Dr. Kinsey Anderson was PI for this experiment. Data tapes (6250 bpi) contain about 110 files arranged in pairs of a header file and its associated data file. The header files are ASCII and the data files contain binary data in a format described in the header file. These are FLAT files.

The header file is terse in its description of the data fields and some additional information will be given here.

1. **time** is the time at the end of the 4 second averaging period.
2. **otnn** refers to the open solid state telescopes which collect both protons and electrons.
 - a. $nn = 12$ means $16 \text{ keV} < \text{energy} < 280 \text{ keV}$.
 - b. $nn = 60$ means $84 \text{ keV} < \text{energy} < 280 \text{ keV}$.
 - c. $nn = 200$ means (electron) energies greater than 200 keV.
3. **ftnn** refers to the solid state telescopes with a foil cover. These collect only electrons.
 - a. $nn = 8$ means $19 \text{ keV} < \text{energy} < 280 \text{ keV}$.
 - b. $nn = 60$ means $84 \text{ keV} < \text{energy} < 280 \text{ keV}$.
4. **ne** refers to electrostatic analyzers collecting electrons. When $n = 2$, the energy range is approximately 1.4–1.6 keV. When $n = 6$, the energy range is approximately 4.5–6.0 keV.
5. **np** refers to electrostatic analyzers collecting protons. The energy ranges are similar to those for the electrons.
6. **coin** refers to counts of very energetic particles which penetrate the first solid state detector in the open telescopes. This includes electrons of energy greater than 300 keV and protons of energy greater than 1 MeV.
7. **sc angle** refers to the spacecraft spin angle as determined by the sun sensor. 0° means the sun sensor is looking at the sun.
8. **{x, y, z} pos** is the spacecraft coordinates in the GSE coordinate system.

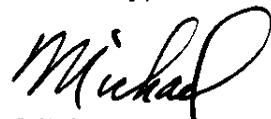
To Suman Krishnaswamy

14-October-1988

Page 2

9. spin pr is the spacecraft spin period as determined from the sun sensor.
10. Units for flux are $\text{cm}^{-2}\text{-sec}^{-1}\text{-keV}^{-1}\text{-ster}^{-1}$.

Sincerely,



Michael McCarthy

Instrument Paper:

Anderson et al., IEEE Trans. Geosci. Electronics,
GE-16, No.3, July 1978, 213 - 216.

L

CDATE = Sat Apr 9 08:59:15 1988
 RECL = 68
 NCOLS = 16
 NROWS = 30115
 BF = 50
 FILL = -1.00000

#	NAME	UNITS	SOURCE	TYPE	LOC
001	time	seconds	ISEE 2	T	0
002	ot12	flux	ISEE 2	R	8
003	ot60	flux	ISEE 2	R	12
004	ft8	flux	ISEE 2	R	16
005	ft60	flux	ISEE 2	R	20
006	2e	flux	ISEE 2	R	24
007	6e	flux	ISEE 2	R	28
008	2p	flux	ISEE 2	R	32
009	6p	flux	ISEE 2	R	36
010	ot200	flux	ISEE 2	R	40
011	coin	flux	ISEE 2	R	44
012	sc ang	degrees	ISEE 2	R	48
013	x pos	Km	ISEE 2	I	52
014	y pos	Km	ISEE 2	I	56
015	z pos	Km	ISEE 2	I	60
016	spin pr	Msecs	ISEE 2	R	64

ABSTRACT

start time: 1986 Mar 28 (87) 12:49:20.100

stop time: 1986 Mar 29 (88) 22:17:02.210

average period: 4.000 seconds

data format: IEEE

EOF

This is double precision
 floating point with
 a time origin

00:00:00 GAT
 on Jan 1 1965.

Sample header file listing

NOTE FOR VAX USERS, ON READING DATA IN NON-VAX REPRESENTATIONS

February, 1994

H. K. Hills

On the current VAX operating system, there is a conversion feature that allows the Fortran programmer to insert CONVERT=(one of several valid keyword values) into the OPEN statement, and then the data that are read in through that file with an unformatted Fortran READ statement are converted from the specified representation to VAX representation during the read process. For more details, use the system HELP file for FORTRAN/CONVERT.

Information on IEEE floating point format

	Single Prec.	Double Prec.
sign	bit 31	bit 63
exponent	bits 30-23 bias 127	bits 62-52 bias 1023
fraction	bits 22-0	bits 51-0

Fortran real and double precision numbers are composed of the following parts:

- * a one bit sign. 1 ==> negative number.
- * a biased exponent. The exponent is eight bits for a real number and is eleven bits for a double precision number. The values of all ones and all zeros are reserved.
- * a normalized significand, with the high order 1 bit implicit. The fraction is 23 bits for a real number and 52 bits for a double precision number. A real or double is represented by the form:

$2^{*(\text{exponent} - \text{bias})} * 1.f$

where f is the bits in the mantissa.

zero is represented by an exponent of zero and a fraction of zero.

Some further examples of IEEE numbers follow:

+1.0	3f800000	3ff00000000000000
-1.0	bf800000	bff00000000000000
+2.0	40000000	4000000000000000
+3.0	40400000	4008000000000000

From: NCF::KAYSER "Susan E. Kayser GSFC (301) 962-626" 26-JUL-1989 11:0
To: SUMANT
CC:
Obj: Subroutines to convert IEEE --> VAX

K-1

C
C PROGRAM: IEEE_VAX VERSION: 89.5 PROJECT: NSSDC
C
C ENGLISH NAME: IEEE to VAX
C LANGUAGE: FORTRAN77 for VAX 8650
C
C PURPOSE: To convert between IEEE and VAX formats
C
C METHOD: IEEE integers are like IBM integers: to convert to VAX,
C you need only rearrange the bytes. E.g., in a VAX dump, a 4-byte
C word can be represented as DCBA, where A is the earliest address
C and D is the last. For IEEE and IBM, A is the most significant
C byte and D the least (so normal reading is ABCD); for the VAX:
C
C IEEE (IBM) VAX
C I*4 DCBA ABCD
C I*2 BA AB
C For floating point numbers, the bytes must be rearranged:
C R*4 DCBA CDAB
C R*8 HGFE DCBA GHEF CDAB
C and also the contents of the bytes changed.
C
C R*4: A real number is represented as $2^{n} * (b_0/2^0 + b_1/2^1 + b_2/2^2 \dots)$ where the b_i are either 0 or 1, and n is the
largest power of 2 less than the number. For example:
C $3 = 2 * (1 + 1/2)$ $5 = 2^{+2} * (1 + 1/2^{+2})$
C and the first term in the () is always 1. For IEEE as for the
C VAX, bit 31 (msb) is the sign bit (1 for negative number), the 8
C bits 30-23 are for the exponent, and the remaining bits 22-0 (lsb)
C are the fraction. The exponent has a bias, which is 127 for IEEE,
C i.e. the 8 exponent bits = $n + 127$. The fraction has the first 1
C implicit. E.g., for 3, bit 31 is 0, bits 30-23 are 1000 0000, and
C the mantissa is 1000..., or 0100 0000 0100 0000... or 404000000;
C for 5, the exponent is $2+127 = 1000 0001$ and the mantissa is 01
(omitting the initial 1), or 0100 0000 1010 0000... or 40A00000.
C The number 0 is represented as 00000000 for IEEE and VAX.
C The VAX has a bias of 128--but also seems to define the exponent
as the first power of two larger than the number, which means that
the VAX exponent is effectively 2 greater than the IEEE exponent.
C The fraction's highest (implicit 1) term is then 1/2, and the
mantissa will be identical to that of IEEE.
C
C R*8: The IEEE representation has bit 63 (msb) for the sign,
C the next 11 bits 62-52 for the exponent, with a bias of 1023, and
C the remaining 52 bits 51-0 (lsb) for the fraction (high-order 1
C omitted). The VAX has bit 63 for the sign, the next 8 bits 62-55
C for the exponent, with a bias of 128, and the remaining 55 bits
54-0 for the fraction. Thus the bias must be changed, the
C exponent shrunk to 8 bits (which means that very large exponents
cannot be represented in VAX), and 3 0-bits tacked on as the lsb.
C
C The procedure for R*4 conversion is a modification of a
C program sent by George Pitt which adds 1 to the exponent and then
C reorders the bytes.
C The procedure of R*8 conversion reorders the bytes so that the

C most significant byte is at the start of the longword (ABCD), uses
C the bit-manipulation VAX functions IAND, IOR, and ISHFT to make
C the conversion, and rearranges the bytes into the Vax order CDAB.

X-2

C CALLS:

C IE_VAX8....INVERT4 R*8 conversion IEEE-->VAX
CNUFLIP4
C IE_VAX4....IFLIP4 R*4 conversion IEEE-->VAX
C INVERT4 I*4 conversion IEEE-->VAX (DCBA-->ABCD)
C IFLIP4 (DCBA-->CDAB)
C NUFLIP4 (ABCD-->CDAB)
C VAX2LCL R*4 conversion VAX-->IEEE

C COMMONS: VARIABLES CHANGED:
C none

C CALLING SEQUENCE:

C SUBROUTINES IE_VAX8 and IE_VAX4 (N,IARRAY,JARRAY)
C SUBROUTINE vax2lcl (N,IARRAY)
C N: Number of items to be converted
C IARRAY: Incoming array (IEEE format) of N items (consecutive)
C JARRAY: Output array, converted to VAX format
C FUNCTIONS INVERT4,IFLIP4,NUFLIP4 (INT)
C INT: Input 4-byte word

C VARIABLES:

C BYTES(4): 4 bytes equivalenced to the 4-byte word ICONV or INT
C FILL: Output when conversion produces bad value
C ICONV: Holds most significant 4 bytes to be converted
C ICONV2: For R*8, holds least significant 4 bytes
C IOFF: Hex Adjustment to change IEEE bias to VAX bias
C ISIG: Holds significand of ICONV (everything but sign)
C ISIGN: Holds sign bit
C IWORD: Temporary storage for a 4 byte word

C ERROR HANDLING:

C For REAL conversion, the resulting exponents are checked to be
C sure they do not exceed valid limits. If they do, an error message
C is written, and the output is replaced by FILL.

C PDL:

C DESIGN AND CODING: S. Kayser -SAR- May, 1989
C IE_VAX4 is based on a routine sent by George Pitt.

C MODIFIED:

C*****1*****2*****3*****4*****5*****6*****7*

SUBROUTINE IE_VAX8(N,IARRAY,JARRAY)

C..Convert from Pyramid IEEE double to Vax floating point R*8 format
C..Original word is unchanged.

DIMENSION IARRAY(1),JARRAY(1)
INTEGER ISIGN,ISIG,IOFF/'37E00000'X/
INTEGER ICONV,ICONV2,IWORD
REAL*8 FILL/-1.D9/
DO 100 I = 1,N
 ICONV = IARRAY(2*I-1)
 ICONV2 = IARRAY(2*I)
 IF (ICONV.NE.0 .OR. ICONV2.NE.0) THEN
 ICONV = INVERT4(ICONV)
 ISIGN = IAND(ICONV,'80000000'X) ! Pick up sign bit
 ISIG = IAND(ICONV,'7FFFFFFF'X) ! Pick up significand

```

ISIG = ISIG - IOFF           ! Change exp bias
IF (ISIG .LT. '00800000'X) THEN
  WRITE(31,1110) ICONV,ICONV
  FORMAT(' IE_VAX8: out-of-bounds',I10,Z10)
  JARRAY(2*I-1) = FILL
  GO TO 100
ENDIF
IF (ISIG .GT. '75800000'X) THEN
  WRITE(31,1110) ICONV,ICONV
  JARRAY(2*I-1) = FILL
  GO TO 100
ENDIF
ICONV = ISIG * 8             ! Shift 3 bits
ICONV = IOR(ICONV,ISIGN)      ! Put sign bit back
C..High order word still needs 3 bits transferred from low order
IF (ICONV2 .NE. 0) THEN
  IWORD = IAND(ICONV2,'E0'X)      ! Pick up 3 msb
  IWORD = ISHFT(IWORD,-5)
  ICONV = IOR(ICONV,IWORD)        ! Transfer 3 bits
  ICONV2 = INVERT4(ICONV2)
  ICONV2 = ISHFT(ICONV2,3)        ! Shift 3 bits
  ICONV2 = NUFLIP4(ICONV2)
END IF
ICONV = NUFLIP4(ICONV)
END IF
JARRAY(2*I-1) = ICONV
JARRAY(2*I)   = ICONV2

```

100 CONTINUE

RETURN

END

FUNCTION INVERT4(INT)

C..Reverses order of bytes in I*4 word (or R*4). DCBA --> ABCD

C..Original word is unchanged.

```

BYTE BYTES(4), OBYTES(4)
EQUIVALENCE (BYTES,INEW), (OBYTES,IOUTA)
INEW = INT
OBYTES(1) = BYTES(4)
OBYTES(2) = BYTES(3)
OBYTES(3) = BYTES(2)
OBYTES(4) = BYTES(1)
INVERT4 = IOUTA
RETURN
END

```

FUNCTION IFLIP4(INT)

C..Flips order of bytes by pairs in I*4 word (or R*4). DCBA --> CDAB

C..Original word is unchanged.

```

BYTE BYTES(4), OBYTES(4)
EQUIVALENCE (BYTES,INEW), (OBYTES,IOUTA)
INEW = INT
OBYTES(1) = BYTES(2)
OBYTES(2) = BYTES(1)
OBYTES(3) = BYTES(4)
OBYTES(4) = BYTES(3)
IFLIP4 = IOUTA
RETURN
END

```

FUNCTION NUFLIP4(INT)

C..Reorders bytes in I*4 word (or R*4). ABCD --> CDAB

C..Original word is unchanged.

```

BYTE BYTES(4), OBYTES(4)

```

K-3

K-4

```
EQUIVALENCE (BYTES,INew), (OBYTES,IOUTA)
INew = INT
OBYTES(1) = BYTES(3)
OBYTES(2) = BYTES(4)
OBYTES(3) = BYTES(1)
OBYTES(4) = BYTES(2)
NUFLIP4= IOUTA
RETURN
END
```

C-----

```
SUBROUTINE IE_VAX4(N,IARRAY,JARRAY)
```

```
C..Convert from Pyramid IEEE single to Vax floating point f format
C..Modified by S. Kayser, to use FLIP4.
```

```
DIMENSION IARRAY(N),JARRAY(N)
BYTE BYTES(4)
INTEGER ICONV,IWORD
EQUIVALENCE (ICONV,BYTES)
DATA FILL/-1.E9/
DO 100 I = 1,N
    ICONV = IARRAY(I)
    IF (ICONV .NE. 0) THEN
        IWORD = BYTES(1) + 1          ! Changes exponent bias
        IF (IWORD .GT. 255) THEN
            WRITE(31,1100) ICONV,ICONV
1110       FORMAT(' IE_VAX4: out-of-bounds',I10,Z10)
            JARRAY(I) = FILL
            GO TO 100
        ENDIF
        BYTES(1) = IWORD
        ICONV = IFLIP4(ICONV)
    ENDIF
    JARRAY(I) = ICONV
100 CONTINUE
RETURN
END
```

C-----

```
C..converts from vax f format to IEEE (UNIX point of view)
```

```
subroutine vax2lcl(n,iarray)
dimension iarray(n)
character*1 conv(4),ccc
integer iconv
equivalence (iconv,conv)
c Convert from vax floating point f format to pyramid IEEE single
do 10 i=1,n
    iconv=iarray(i)
    if (iconv.ne.0) then
        ccc=conv(1)
        iii=ichar(conv(2))-1
        if (iii.lt.0)then
            write(0,100)iconv
100       format(' vax2lcl: overflow int in =',i10)
            call exit(1)
        endif
        conv(1)=char(iii)
        conv(2)=ccc
        ccc=conv(3)
        conv(3)=conv(4)
        conv(4)=ccc
        iarray(i)=iconv
    endif
```

K-5

10 continue
return
end

DUMP OF TAPE D1OUT

INPUT TAPE D1OUT ON HT0
DATA INPUT H9 NF=110 SR=2 1 1 SR=111 LAST 1

FILE	INPUT RECS.	DATA RECORDS INPUT	MAX LENGTH	3400 BYTES	READ ERROR SUMMARY			INPUT RETRIES	
					SIZE	PERM ZERO B	SFCRT UNDEF.	#RECS.	TOTAL #
1	30	30	1	1	72	0	0	0	0
2	RECORD	1	LENGTH	3400 BYTES					
3	FILE	2							
4	(	41C3F9FC	D7FF7C6E	47EDF74	468D50E0	46013711	46597C9E	49440254	4A1FB73F
5	)	45D5B2E1	429A229E	42B2F368	00000000	00000000	00000000	41C3F9FC	D9FF3B64
6	(	80)	C0000000	C0000000	C0000000	C0000000	C0000000	00000000	C0000000
7	)	C0000000	C0000000	C0000000	C0000000	C0000000	C0000000	00000000	C0000000
8	(	120)	F5FF66BE	FFF15A4	0050B5E0	455E95E8	41C3F9FC	DEFEF9DB	43ACD58
9	)	492D4810	4A08990	47A5E376	46685076	446285EB	439E72A	478D9CC3	45DCEFTC
10	(	160)	453EJC58	41C3F9FC	DDFB8851	47EC0D84C	4751FD21	45DB5A5E	46022A56
11	)	270)	4661CD80	403D95E	443695DE	428C60B8	FFFF66CC	492C15AD	492C15AD
12	(	240)	4743D903	4747D33C	4643695A	4643695A	4675CCCS	492EB02	495FE42D
13	)	280)	43377F14	47E2FC14	47489132	46403895	46726599	492E337C	49D9AC39
14	(	320)	45FC5853	492DF038	4953248	479B85AF	465795CE	4808C66C	493E753F
15	)	400)	00009BCA	453E0C58	41C3F9FC	E3FE147A	475C557F	45FC755D	492E76BF
16	(	500)	F5FF6C3	50009BD6	453E0C58	41C3F9FC	E5FD482A	479C5A57	49EC1304
17	)	640)	49C32E97	47A83630	465B6E61A	408B6337	44329FBF	41FC49E0	FFFF66F6
18	(	680)	41C3F9FC	EBFDNE56	47E5D13	47468DDE	464A74C5	46705AE4	492E0FA4
19	)	720)	4T6E83105	44A775C2	431E8E0	FFFF66FD	FFFF15CC	00009BC4	453E0C58
20	(	760)	477F53192	45F49219	461CB76	49311761	49C67C1E	47AA3DF3	41C3F9FC
21	)	800)	F5FF6704	FFF15D0	00009BD6	453E04C	41C3F9FC	EFCC8B43	465B6A34
22	(	840)	4931BF89	49C3CFA4	47B464C1	464F039F	416E6337	443632AD	47A54469
23	)	880)	453E0C58	41C3F9FC	F1FC49BA	47EC77F9	474719E1	46466CA2	493E95E
24	(	920)	4641453C	3FB9D99E	445517EA	42F33970	FFFF6712	00009BD1	453E0C58
25	)	960)	47F57E2C	47E64DD3C	46125E32	46362FA8	4930905A	49B8D5A4	41C3F9FC
26	(	1000)	436F202C	47F15D19	46362FA8	46362FA8	4930905A	49B8D5A4	465B6B6B
27	)	1040)	460TADES	493267B2	49C17382	47ACADA9	46466CA2	48086337	49086337
28	(	1080)	600C9BC	453E0E4C	41C3F9FC	F7FB851E	47EAEF2A	474E5BE2	460E8C93
29	)	1120)	47A7D34A	46610D80	3FB9D99E	44C2D46D	43B07E1C	FFFF6727	00009BCD
30	(	1160)	F5FB4395	47F77F16	47593FA3	462E6B62A	465828DB	4930827C	49B7E2DC
31	)	1200)	445CC254	42D4A123	FFFF672E	475F15E9	00009BC8	453E0C58	47A80DDA
32	(	1240)	45DFAAA3	460D93AB	492F6228	498557E6	47ADCB88	465A2E4F	49B8D5A4
33	)	1280)	FFFF15F0	00009BCB	453E0C58	41C3F9FC	FDFAE147	47E8EFC2	493E95E
34	(	1320)	45B73A97	47A6B5E	465B6A34	40CB6337	442056F2	42AE755C	41C3F9FC
35	)	1360)	41C3F9FC	FFF9AFBE	47E5E388	474D0D7E	463E37A7	465EE8AE	465B6A34
36	(	1400)	4C056337	44D06CB8	43488B60	FFFF6743	FFFF15F8	00009BC8	453E0C58
37	)	1440)	478EDB3	458EDE0	452D04CD	45B39C89	47AD6394	46527338	49B8D5A4
38	(	1480)	FFFF674A	FFF15FC	00009BC7	453E0C58	41C3F9FC	03FA1CAC	47EFFD3
39	)	1520)	492E11DA	498BCD39	47AAD5E1	465C291	403D99E	433667C6	47528844
40	(	1560)	453E0E4C	41C3F9FD	05F9DB22	47E47B25	4747764E	464558E38	45EDAD73
41	)	1600)	4E5A2E4F	408B6337	44C4171B	43353F38	FFFF6758	467D2399	49302BF5
42	(	1640)	48069867	478A1F4	4508B6337	44C4171B	43353F38	FFFF6758	49B910DB
43	)	1680)	4393623A	FFFF675F	453E0C58	41C3F9FC	465C291	403D99E	47A79A42
44	(	1720)	46015941	4930910A	49B87C52	47A95E0B	46542B03	40695006	4448C03B
45	)	1760)	10009BC3	453E0C58	41C3F9FC	4B5F15E87	47E5E55E	47485E5F	47485E5F
46	(	1800)	47B7F129	45595268	401B6337	44C33287	4321F52C	FFFF676E	492CE32B
47	)	1840)	408D4F0	478295C4	46365CC4	492BD61E	49B84D27	47A6B505E	466B5049
48	(	1880)	43C956B1	4389C559	FFFF6775	453E0C58	41C3F9FC	47EFFD3	460FC138
49	)	1920)	45D57948	45FDB4CB	492E763F	49BCEE21	474308CC	466558FD	408B6337
50	(	1960)	FFF161C	J0099EBF	453E0C58	41C3F9FD	11F851EB	47E81A2B	413D53D
51	)	2000)	498BCA39	47AFED48	466538FB	40CB6337	44A4A844	430E5AC4	41EABEC
52	(	2040)	41C3F9FD	13F63126	47F533E9	47739J83	4634952FA	46108690	492AC910
53	)	2080)	4639D99E	461642BD	4385163C	498BCD39	492FA56F	49B8CC39	47A67C64
54	(	2120)	478167C6	45DBC2EB	492069B2	49B94693	453E0D4C	41C3F9FD	46519751
55	)	2160)	478167C6	45DBC2EB	492069B2	49B94693	44519858	411EA480	44519858

	FILE	INPUT RECS.	DATA INPUT	RECORDS	MAX SIZE	READ PERM	ERROR ZERO B	SUMMARY SHORT	UNDEF.	INPUT #RECS.	RETRIES
2	2	573	3400	0	0	0	0	6	0	0	0
*	FILE	110 RECORD	42 LENGTH	2788BYTES							
*	(3)	41C42E9F	BFB43958	47EE4635	47477239	461C6CD3	463918F9	48866F76	47D1AAD3	480754A8	4603E38F
*	(4)	4066940F	44B47362	435EBCA0	FFFEDAT8	C0C179CB	05001E22	453ECA64	41C42E9F	C1B43958	4808E9F15
*	(8)	47E9DE2	45E3A599	4617983F	488C631C	47F84E1F	4802323A	46063763	4037A5A5	4487CDF	43A828D4
*	(120)	FFFEDAD8	0001700B	00001E22	453EA64	41C42E9F	C3B33333	47ED5A26	474D2F87	45F0A611	460DB161
*	(150)	488DE91F	47FF1F46	47E3E5F5	461C6CD3	44398F70D	4089BF3C	4430D805	42B1E9A0	FFFEDAD8	0001700E
*	(243)	453EA64	41C42E9F	C5B33333	47E451BE	473EF79F	4641BC73	4665540C	489A4C2C	4807172C	47E41E50
*	(243)	462C874	4609BF3C	4434BF28C	45CF38D8	45F335A5	48ADB5C2	48000E83	47D861E5	462874A1	4009BF3C
*	(280)	480716F6	4786E96	45CF38D8	45CF335A5	48ADB5C2	48000E83	47D861E5	462874A1	4009BF3C	441211D5
*	(323)	439EC3CA	FFFED9F9	00017011	00001E2B	453E0A64	41C42E9F	C9B33333	47F39F5C	475B88C8	45CB47B0
*	(363)	45ED3E94	48B2E48	4811U8B9	47DE112A	4620AAE04	4605940F	4428F888	428E3938	FFFED9F9	00017011
*	(450)	0001E2B	453EA64	41C42E9F	CB2B2D0C	47E91C44	4741B4EC	463BA96	46545C27	48B733CD	48253490
*	(450)	4708454	462C874	4605940F	4437BC4	4437BC4	4437BC4	4437BC4	4437BC4	4437BC4	4437BC4
*	(483)	CDB2D0E	48031FE6	477C8943	45E3F253	46073C6A	48B6BA4C	48279EC4	47F5B8F0	46279394	4009BF3C
*	(522)	4453F1B9	4394D5FE	FFFED9EA	00017017	00001E35	453E087C	41C42E9F	CFB22DCE	47F8F884	47727DFC
*	(550)	45C3B214	45DAD11D	488733CD	482B0788	47D861E6	46209819	4089BF3C	4430D805	424D17C0	FFFED9EA
*	(603)	60017017	30001E35	453E0870	41C42E9F	C1B22D0E	47E714EE	473BF79F	462D731B	46432440	48B274C8
*	(633)	48341E4	4707A620	4605940F	4437BC4	4437BC4	4437BC4	4437BC4	4437BC4	4437BC4	4437BC4
*	(680)	41C42E9F	D3B126E9	47F8E2275	476424B8	45F5E187	4611A386	48B10846	483AF06B	47DFFEE2	4606FDD7
*	(720)	4099BF3C	44347962	438AC3A2	FFFED9EA	00017017	00001E35	453E0870	41C42E9F	D5B126E9	48097352
*	(760)	47812348	45B851484	45D5C87A	48AF9BC5	48341EE4	47E12F3E	461367BE	4089BF3C	4428F888	4201BCD0
*	(839)	FFFED9DC	0001701D	00001E3E	453EA64	41C42E9F	D7B126E9	47EA66C0	4741B4EC	461A8ECE	46335BAB
*	(840)	483E0A64	41C3495B	47D8E7A9	4626CCF9	4609BF3C	448C5769	4312043C	FFFED9DC	0001701D	0001E35
*	(920)	46247923	3FB7A9A5	442EB5FS	4381CCA2	FFFED9DC	0001701D	00001E3E	453E0A64	41C42E9F	47CA9539
*	(960)	48340BF5	4786E096	45CD25B6	45F10EAB	48B01545	4836648C	47D0D33	461F0AE1	4089BF3C	443D0805
*	(1000)	4143C6C0	FFFED9DC	0001701D	00001E3E	453E0A64	41C42E9F	DDB029C4	47EB52D0	47449392	46185841
*	(1349)	463E3A52	488319D0	483AF06B	47D7A529	4608837	465941C	448C5769	42F33940	FFFED9DC	00017022
*	(1627)	47DA6648	4618U666	3FB7A9A5	449D86AF	437C8594	453E0A64	461EAF2	463ED64	48B8A04F	483787A8

	FILE	INPUT RECS*	DATA RECORDS INPUT	MAX. SIZE	READ ERROR SUMMARY	INPUT RETRIES
					PERM ZERO B SHRT UNDEF.	# RECS TOTAL#
41						
42	110	420	421	3400	0 0 0	0 0
43	E OJ	DUMP STOPPED AFTER FILE	110	# OF PERMANENT READ ERRORS	0	
44	START TIME	05/15/89 10:45:26		STOP TIME	05/15/89 10:51:16	
45						
46						
47						
48						
49						
50						
51						
52						
53						
54						
55						
56						
57						
58						
59						
60						
61	\$ SASS IN HTI \$ EXE TPNRCF BS					

REQ. AGENT

RLR

RAND NO.

ACQ. AGENT

SK

ISEE-1

4 SECOND RESOLVED B-FIELD DATA (12-S AVG)

77-102A-04T

This data set catalog consists of 5 tapes for ISEE-1. The tapes are 6250 bpi, 9-track, unlabeled, multifiled, binary, created on the IBM 360. The records are of fixed length with 24 bytes per record and 1000 records per block. The data format for each logical record is as follows:

I*2 FOUR DIGIT YEAR	(IBM FORMAT)
I*2 DAY OF YEAR (001=JAN 1)	(IBM FORMAT)
I*4 MILLISECONDS OF DAY	(IBM FORMAT)
R*4 BX SC, BY SC, BZ SC, BT	(IBM FORMAT).

The D and C numbers, time spans, and number of files are as follows:

77-102A-04T ISEE-1:

D#	C#	FILES	ORBITS	TIME SPANS
D-80100	C-27689	60	741 - 800	08/26/82 - 01/16/83
D-80101	C-27690	60	801 - 860	01/16/83 - 06/09/83
D-80102	C-27691	60	861 - 920	06/09/83 - 10/30/83
D-80103	C-27692	30	921 - 950	10/30/83 - 01/10/84
D-80104	C-27693	60	1271 - 1330	02/13/86 - 07/06/86

REQ. AGENT

RLR

RAND NO.

ACQ. AGENT

SK

ISEE-2

4 SECOND RESOLVED B-FIELD DATA (12-S AVG)

77-102B-04P

This data set catalog consists of 5 tapes for ISEE-2. The tapes are 6250 bpi, 9-track, unlabeled, multifiled, binary, created on the IBM 360. The records are of fixed length with 24 bytes per record and 1000 records per block. The data format for each logical record is as follows:

I*2 FOUR DIGIT YEAR	(IBM FORMAT)
I*2 DAY OF YEAR (001=JAN 1)	(IBM FORMAT)
I*4 MILLISECONDS OF DAY	(IBM FORMAT)
R*4 BX SC, BY SC, BZ SC, BT	(IBM FORMAT).

The D and C numbers, time spans, and number of files are as follows:

77-102B-04P ISEE-2:

D#	C#	FILES	ORBITS	TIME SPANS
--	--	-----	-----	-----
D-80105	C-27694	60	741 - 800	08/26/82 - 01/16/83
D-80106	C-27695	60	801 - 860	01/16/83 - 06/09/83
D-80107	C-27696	60	861 - 920	06/09/83 - 10/30/83
D-80108	C-27697	30	921 - 950	10/30/83 - 01/10/84
D-80109	C-27698	60	1271 - 1330	02/13/86 - 07/06/86

77-102A-04T
77-102B-04P

12/22/89

ISEE MAGNETOMETER FOUR SECOND DATA TAPE DESCRIPTION

This letter describes the format used by the ISEE-1 and ISEE-2 magnetometer group for the submission of its four second data on magnetic tape to the National Space Science Data Center (NSSDC).

The overall description is that the data is stored as IBM integer and floating point numbers, and written onto standard 1/2 inch 6250-bpi 9-track magnetic tapes. The logical record length will be fixed for all tapes at 24 bytes. The physical blocksize for all tapes will be fixed at 2,400 bytes. Each physical block contains 100 logical records. Each magnetic tape contains 30 or 60 files of data separated by a single end-of-file mark. The end-of-data is indicated by two successive end-of-file marks at the end of the 30th or 60th data file.

Each tape file contains magnetometer data in spacecraft coordinates from one of the spacecraft for one orbit, an orbit being measured from perigee to perigee. Each magnetic tape contains 30 or 60 orbits of data. The data provided are 12 second overlapping data averages of the highest resolution data, recorded every four seconds.

The external labels on the magnetic tape contain the following information: Name of the spacecraft and experiment; start and stop dates of the data on the tape; the density (6250-bpi) and number of tracks (9) at which the tape was recorded; the physical blocksize and the logical record length used in writing the tape; an estimate of the amount of tape used; the production date of the tape; and a name and telephone number of the individual responsible for the tape.

All data is stored in standard IBM/360 format for the recording of integer and floating point data values. The data fill value (flag value) for magnetometer values is +1.0e34. There are no fill values for the time values. There are no significant time gaps in the data, that is, times with fill values have been generated to fill all time gaps in the data. The format of each logical record is:

INTEGER*2 Four digit year for the data point
INTEGER*2 Three digit day of year for the data point (001 - Jan. 1)
INTEGER*4 Milliseconds of the day for the data point (0 - midnight)
REAL*4 BX magnetometer value in spacecraft coordinates for this time
REAL*4 BY magnetometer value in spacecraft coordinates for this time
REAL*4 BZ magnetometer value in spacecraft coordinates for this time
REAL*4 BT magnetometer value for this time

The last physical block of each tape file may contain more than one copy of the last logical record so that all physical blocks are the same size.

Questions concerning these data tapes may be directed to:

Harry Herbert or Muriel Kniffin
University of California at Los Angeles
Institute of Geophysics and Planetary Physics
5833 Slichter Hall
Los Angeles, California 90024-1567
(213)206-6073
SPAN: BRUNET::HARRY or BRUNET::MURIEL

213-825-9030 Harry Herbert

